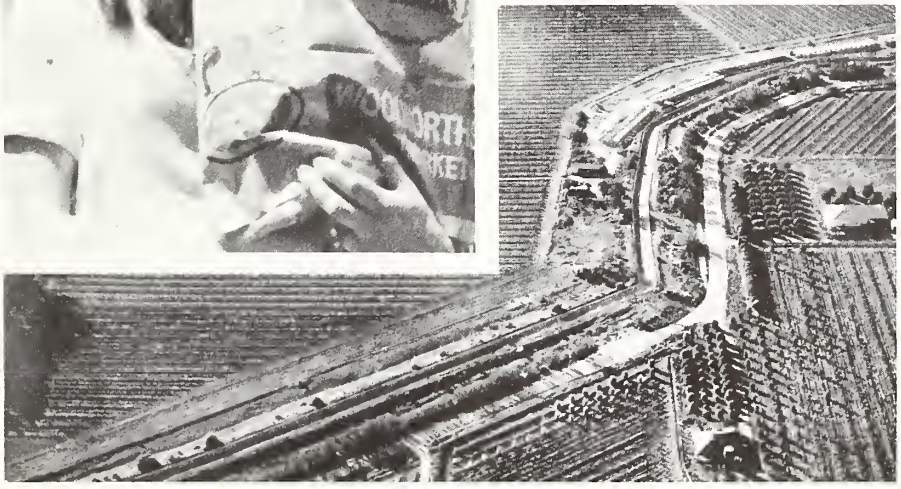
FOREIGN AGRICULTURE



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Two hundred years of growth of agriculture and trade in Australia and New Zealand

Foreign Agricultural Service
U.S. DEPARTMENT OF AGRICULTURE

FOREIGN AGRICULTURE

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In this issue:

This week's cover:

The face of Australia and New Zealand 200 years after Captain Cook's first visit to the South Pacific. Center, young shopper displays sign of Australia's spirit. Clockwise, starting upper right: street scene, Auckland, New Zealand; irrigated fields near the Murray River, Australia; parade watchers, Wellington, New Zealand; Australian kangaroo; Australian station hand; and outback companionship in Australia.

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Above is an emblem of Australia in use in the late 19th century. It is an ancestor of the present Commonwealth coat of arms, in which the kangaroo and the emu have changed places and the shield has six subdivisions (six States) instead of four.

Editors' Foreword

New Zealanders and Australians are celebrating in 1969 and 1970 the bicentennials of their beginnings as nations when Captain Cook first visited the South Pacific. Cook's reports when he returned to Britain set off a wave of exploration and then settlement in the south seas.

Foreign Agriculture, in this issue, takes special note of the progress both countries have made over the years from isolation to world importance chiefly through the development of efficient and fruitful farming.

Although each country is rapidly expanding its industrial capacity, both are remarkable for being nations with high standards of living that depend primarily upon farm output for export earnings. Without foreign sales of wool, mutton and lamb, dairy products, wheat, beef, and other agricultural goods, the economic situations in New Zealand and Australia would be grim.

The United States has a deep interest in the futures, agricultural and otherwise, of the two countries. They are, in relation to the United States, friends and allies, suppliers of agricultural products, markets for industrial products, and keen competitors in world markets for sales of many farm commodities.

Foreign Agriculture, in this issue, gives a glimpse of the two countries' positions in international agricultural trade, their present productivities and agricultural specializations, and their agricultural histories.

The Story of Australian Agriculture

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From the very beginning agriculture in Australia has had a rugged and uneven path. When Captain Phillip landed at Botany Bay in 1788 to establish the Penal Colony of New South Wales, he had instructions, immediately upon landing, "[to] proceed to the cultivation of the land." He hardly had ideal conditions, however, for establishing a flourishing agriculture.

The convicts themselves were from English cities and knew nothing about farming. Neither did their soldier supervisors. Many of the convicts were sick, old, or children and unable to do heavy labor. No draft animals had been included in the colony's first supplies and all clearing, breaking up, and preparation of land for seeding had to be done by human labor and with very inadequate tools. Captain Phillip wrote to England, "Most of the axes, spades, and shovels were the worst that ever were seen."

The climate seemed capricious to Europeans and colonists had to learn by trial and error the best times for planting and harvesting. Seed was mostly of European origin and unadapted to Australian conditions. The soil immediately around the first settlement was poor.

The first cultivated land in Australia was a plot of about 8 acres in what is now called Farm Cove in the Sydney area. The land currently is part of the Sydney Botanic Gardens. This area was shortly abandoned for what was considered better land at Parramatta, 16 miles distant, from which the first harvests were gathered in December 1789. By May 1790 the colonists were reduced to a state of semistarvation from which they were rescued by the arrival of several supply ships from England.

By 1792, when Phillip's term as governor expired, nearly 5 years after establishing the colony, 172 settlers were farming about 1,800 acres of land. In addition, about 1,000 acres were farmed by convicts under supervision. The settlers were rapidly scattering into river valleys and other pockets of favorable soils. As their understanding of local conditions increased, their efforts became more successful. By 1796, in spite of attacks of rust, 40,000 bushels of wheat were harvested.

But no sooner had Australia's pioneer farmers begun conquering some of the technical problems of their environment and increasing production than they ran head on into a second type of problem—lack of reliable markets for large quantities of farm goods.

The colonial government, which required large amounts of food for soldiers, convicts, and others on its ration lists, paid high prices when supplies were scarce and encouraged acreage expansion. But when crops were good prices fell drastically because there was no external market. (Grain could not be shipped to England because freight costs were more than grain was worth and because of British laws against grain imports.) Storage facilities were meager or nonexistent, and even when grain was stored it was seriously damaged or largely destroyed by weevils and other pests. Therefore, farmers could not hold large crops for future sales in leaner times. Finally, both horses and oxen were scarce, and transport from farming areas to Sydney, the biggest center of population, was often prohibitively expensive.

Marketing for the grain farmers of New South Wales was further complicated after Tasmania, settled in 1803 and at that time called Van Diemen's Land, became a wheat exporter in 1810. It was much cheaper to transport wheat by ship from Tasmania to the port of Sydney than to haul it overland to the port from inland New South Wales.

Sheep and expansion

As early as 1794 and 1795 the wealthier settlers, the officers and former high officials of the colony, who received large land grants, were becoming involved in animal husbandry on a big scale. Because of their capital and influence with the government, they acquired either title to or control over large tracts of land that they used chiefly as grazing area. In 1798 Captain John Macarthur, the father of Australia's wool industry, already had 50 head of cattle and about a thousand sheep. By 1804 Macarthur held 3,400 acres of land.

At first graziers raised and sold animals, particularly sheep, for meat. Then they discovered that good wool was valuable enough to ship to England and return a profit. The first consignment was exported by Macarthur in 1807 and weighed 245 pounds.

Wool shipments increased slowly for the next few years as woolens manufacturers and politicians in the United Kingdom had to be convinced of the advantages of big shipments of Australian wool, and Australian sheepmen had to be enlightened as to the advantages of improving their

Collins Street in the early days of Melbourne—1839.

sheep herds with fine-wool sheep, such as the Merino. However the Merino sheep, originally from Spain, was one European stock that adapted readily in Australia and flourished in a variety of conditions. By 1820 Merino sheep had been introduced to both New South Wales and Tasmania.

Meanwhile, a way to move stock and equipment across the Blue Mountains from the Sydney area to the Bathurst plains had been found in 1813. After an initial trickle, a flood of graziers and sheep flocks began about 1820. By 1821 the Bathurst plains were occupied and graziers and their herds began to spread in every direction where they could find grass and water. The wool industry, because of the easy availability of suitable land in Australia and high prices in England, had a rapid expansion.

The first of Australia's boom and bust cycles came to an unfortunate end in the early 1830's. In the middle 1820's Australia underwent one of its periodic droughts (this one lasted 3 years). Sheepmen who had too many animals in a given area or had penetrated to regions with poor water supplies had considerable losses. At the same time English wool prices fell and there was an interruption of the flow of British capital to Australia. Many people lost their investments.

But this lesson instilled little caution. Another wave of expansion was terminated by another reversal in the early 1840's—due chiefly to the overextension of the wool industry itself in Australia. Sheep, from being expensive capital investments, turned into almost valueless encumbrances, and many were boiled down for tallow until the price of tallow fell drastically because of oversupply.

But in spite of temporary setbacks, Australia's wool industry in a few short years had become the backbone of the Australian economy. By 1842 pastoral occupation extended from Adelaide to Brisbane and wool exports for the year were about 9 million pounds.

The land question and squatters

In 1831 the British government decided to stop granting colonial land in all British colonies and to sell it instead for 5 shillings per acre. The idea was to prevent the acquisition of large tracts of land by men who did not develop or cultivate it and to help the establishment of small farmers. In Australia, however, it was the graziers who benefited more than the farmers.

The firstcomers to an area, usually sheepmen, naturally occupied the most fertile and best watered land as pastures. They either ignored regulations and "squatted" on Crown lands or bought limited amounts of land in strategic locations —such as along rivers—and squatted on the rest. The would-be farmer, however, had to pay for all the land he occupied and used, when he could find any suitable soil not already claimed by the sheepmen.

In 1842 the Australian Waste Land Sales Act was passed that virtually assured that no land would be sold that was not paid for at the rate of £1 per acre.

The graziers, who wanted cheap and easy access to land, began forceful agitation to get it. Finally, they were allowed to take up 14-year leases in "unsettled" districts that entitled them to compensation for any improvements they made. The leases were free. Not only did this provide the squatters with a profitable method of having some legal claim to the land they already occupied, but it had the advantage of maintaining a high price for purchase and thus discouraging the encroachment of small farmers into grazing territory.

The land question was temporarily shelved during the Australian gold rushes only to revive with double acrimony when the rushes were over.

Centers of settlement

In addition to the swirl of sheepmen across the interior plains in eastern Australia, other population movements were taking place from coastal centers.

In 1829 the colony of Western Australia was founded at Swan River on the west coast. The growth of Western Australia was a slow process. Coastal lands were mostly infertile, and crop farming developed sluggishly. The pastoral industry did a bit better. The first Merino sheep were imported in 1834 and by 1840 there were 31,000 sheep in the colony.

In what is now Victoria, the first settlements were on the coast at Melbourne and Portland by colonists from Tasmania. By 1836 graziers had established themselves in nearly all parts of Victoria and for several years sheep raising was the area's only established industry.

South Australia was unique among early Australian settlements in that it was carefully planned, the settlers were people who had experience in farming, and the area picked to settle was both fertile and near a good port. Although officially established in 1834, the first influx of settlers was in 1836 at Adelaide. Favored by a relatively stable climate, good seasons, and easily cleared soil, settlement spread rapidly and the emphasis was on wheat growing. South Australia for many years was the breadbasket of the continent and a pioneer of improved wheat-growing methods. It was also a center from which successful wheat farmers spread into

The Discovery an

Four years before the Pilgrims landed at Plymouth Rock, a Dutch explorer named Dirck Hartog nailed a pewter plate to a tree on the island that now bears his name at Shark's Bay in Western Australia. The year was 1616, and Hartog was among the first Europeans to set foot on *Terra Australis Incognita*—the great mythical land to the south that had been sought by early Spanish and Portuguese navigators. He was followed by others, none of whom remained long, finding the north and northwest coasts of the new land, named New Holland, quite uninviting.

It remained for Captain James Cook to discover the more inviting east coast of the new continent. Cook landed at Botany Bay in 1770, finding it no great paradise, yet not rejecting it as the "barren and miserable country" that the earlier explorers of the continent's other side had described. Cook claimed his find for England and proceeded to chart the coast as far north as Cape York.

Although Australia's bicentennial celebration this year commemorates Cook's landing, English settlers did not come to the new land until January 1788, when Captain Arthur Phillip landed with 1,500 people, including 800 prisoners, and began the colony of New South Wales.

The initial settlement of 1,500 grew to 11,590 in 1810 and 38,778 in 1821. With the growth in population came a push

other areas, taking their technology with them.

Queensland was first settled chiefly by squatters spreading out from the area that is now New South Wales. It did not become a separate colony until 1859, and its early economy was based on sheep. Much of Queensland, however, is not suited climatically to sheep because it has a hot, wet season in which the animals do not prosper. Eventually cattle became the chief livestock raised.

Gold rushes

In 1851 gold was discovered near Bathurst in New South Wales and near Bendigo and Ballarat in Victoria. Able-bodied but propertyless men forsook the sheep runs and the farms and flocked to the gold fields. More than 600,000 adventurers from overseas arrived in Australia hoping to get rich.

Australian agriculture was temporarily disrupted by lack of labor, but the high prices stimulated for agricultural commodities by a rapidly growing population and the wealth extracted from the gold fields soon encouraged the production of every type of foodstuff. Squatters and farmers who had regarded the gold rushes as calamities that robbed them of manpower began to make fat profits from sales of mutton, beef, wheat, vegetables, fruits, butter, and eggs if they lived within reasonable transportation distance of any gold fields.

The costs of transport were so high (sometimes as much as £30 or £40 per ton for about 80 miles) that the need for railways was emphasized. One of the first that was built was in Victoria from the coast to Ballarat and Bendigo to haul material to and from the gold fields.

During most of the rest of the 19th century railroads were slowly extended inland from centers of population in coastal areas and along coasts to connect major towns.

Midcentury evaluation

After 80 years of endeavor, agriculturalists in Australia had made uneven progress. Commercial success on a large scale had been achieved only by sheepmen, partly because of the natural advantages of Australia as a sheep-growing area and partly because of expanding European markets for wool. Wheat farmers in South Australia were prosperous because of their advanced techniques compared to the rest of Australia, location on good soils, and easy access to water transportation to nearby wheat-deficit areas, such as Victoria and New South Wales. Deciduous orchards in Tasmania were commercially successful because high-quality fruit could be shipped to Europe when it was scarce there (winter and spring) and could command high prices.

In most parts of Australia crop farming was on a very modest scale and farmers were scattered into pockets of favorable soils, usually near some squatter's headquarters. Farmers' markets were limited to the food needs of the local human and animal populations because transportation to large cities was prohibitively expensive.

Development of the beef cattle industry was still in its infancy. Animals were of no particular breeding though they descended mainly from European stock. In general cattle occupied areas in which the grazing was too poor because of infertile soils, the terrain too rugged, the climate too hot and wet, or the native vegetation too dense to allow the profitable raising of sheep. Outside of local sales of beef, cattle were valuable chiefly for their hides and tallow, which could be shipped to Europe.

The population boom caused by gold rush immigrations

evelopment of Terra Australis Incognita

into the hinterlands for more land—primarily for sheep grazing.

Movements south and southwestward from the Botany Bay area, explorations of settlers from Tasmania—which had been settled as early as 1803 and attained independent colonial status in 1825—and further transportations of prisoners from England led to substantial settlement in present-day Victoria. In 1851 Victoria was proclaimed a separate colony. Settlers also pushed north to Brisbane and inland. In 1859 the self-governing colony of Queensland, chiefly populated by pastoralists, was born.

Settlement of Western Australia, the land once found to be dusty and destitute, began around 1826 in Albany and 1829 on the Swan River.

South Australia, the capital for which, Adelaide, was surveyed 1836, was first backed by the South Australia Company. South Australia's boundaries were extended in 1863 to take in the huge land mass and sparse settlements of the Northwest Territory.

Then came the gold rushes and rapid economic and population growth. Talk of some form of association among the six colonies of the Australian continent was inevitable. The colonists felt a need for coordinated customs policies, external defense, and internal development of such shared resources as the Murray River, and other irrigation sources.

A Federal Council of Australia was established in 1885. It had little power and New South Wales did not join. Attempts at a Federal constitution that could gain approval from all the colonies failed in 1891 and again in 1897-98. Finally, by July 31, 1900, agreement was reached and a constitution was dispatched to London. With enactment of the Commonwealth of Australia Constitution Act effective January 1, 1901, the new nation was officially proclaimed, with Edmund Barton as its first Prime Minister. Melbourne was its capital until 1927, when the seat of government was moved to Canberra. South Australia held the Northern Territory until 1911, when it put this vast undeveloped land into the hands of the Federal Government.

Today, Australia has over 12 million people. Its large cities rank with the world's most modern. Its agricultural production places it among the world's most important suppliers of such products as wheat, meat, and fruit. Industry has flourished and shows a promising future. Tourists are looking increasingly to Australia, with its variety of summer and winter sports, and scientists of many disciplines continue to explore its interior. In the 200 years since Captain Cook's landing, Australia has moved from the mythical *terra incognita* to prosperous reality.—M.A.R.

and the new ideas some individuals brought with them helped change the face of Australian agriculture in the last 40 years of the 19th century.

Beginnings of modern agriculture

Ideas of scientific farming, which were fast taking over English practice, began to be adopted by Australians. Artificial fertilizers, especially superphosphates, began to be used extensively—first by wheat farmers and then by others.

Intrigued by American inventions of farm machinery, Australians thought up a number of devices of their own particularly adapted to Australian conditions. For example, the stump-jump plow was invented so that cleared land could be plowed without the labor and expense of removing all the tree stumps. An invention for harvesting called the stripper cut off the heads of grain plants and threshed them in one operation. The machine, however, did not winnow threshed grain from chaff.

Later a number of more sophisticated machines were designed and developed by Australians, the principles of which are still used in the construction of Australian farm machinery.

In the late 1800's agriculturalists began to pay attention to scientific plant breeding. Gradually Australian varieties of wheat were developed that were faster maturing, more resistant to rust, and better yielding than the unselected seed or the European wheats many farmers had been planting.

An obvious hindrance to agricultural efforts in many parts of Australia was lack of reliable rainfall and water. In the late 1870's and the years following, numerous small irrigation schemes were started in Victoria on the Murray River.

For years Australians experimented with refrigeration for shipping perishable products to Europe. Finally, in the mid-1880's practical methods were perfected, and both dairying and beef production were profoundly affected.

Prices for beef became much more stable with an outside market and production in areas such as Queensland accelerated. Sheepmen also benefited because frozen lamb or mutton was shipped. By 1900 beef exports exceeded 42,000 tons a year and lamb and mutton were more than 30,000 tons.

At the same time technological developments in dairy factory methods allowed rapid improvement in the efficiency of making butter and cheese and in the quality of the product. In Victoria, which had had the chief concentration of beef cattle, dairying became much more important because butter could now be made and exported in quantity. By the 1900's dairying was spreading up the coastal river valleys in Queensland, where it is now a major industry.

Two very important and related developments were the attempts to break the hold of the squatters on large areas of fertile land and the improvements in pasture and water facilities made by graziers to their lands.

After the gold rushes there was steady agitation by displaced and underemployed people for "good farmland." By 1860 most populated parts of Australia had manhood suffrage so agitation could be reinforced by voting. Governments passed laws to distribute lands held by squatters under lease or under no legal method at all to smallholder purchasers. But the laws either had unintentional loopholes or financial requirements such that would-be-farmer purchasers were greatly at a disadvantage in competing with squatters for title to the land. Squatters had ready money, or at least credit, used dummy buyers, forced auction of crucial pieces of land along rivers, and in other ways managed to buy up most of the land put up for sale under the early laws.

Squatters now set about improving by drilling wells, putting up fencing, improving pastures, and building dams. The carrying power of the land and the productivity of the animals raised on it soared.

The average fleece from a sheep was twice as heavy in 1890 as in 1860. Between 1860 and 1894 the total sheep population in eastern Australia rose from around 20 million to 100 million, and cattle numbers tripled to 12 million. Pastoral industry was the single greatest contributor to Australia's economy.

End of a cycle

Wool prices were high in the late 1880's and sheepmen thought continued expansion was all they needed to make more money. They ignored several factors. Rabbits, first released to breed for game in Victoria, multiplied astoundingly and spread through the sheep areas eating huge quantities of grass. Many sheepmen were far in debt because of their expenses in buying land and installing improvements. Graziers had overstocked many areas and injured natural pasturage or occupied regions of doubtful pasturage in dry weather.

A world financial depression began in the 1890's, wool prices tumbled, several Australian banks failed, and, to top things off, a great drought occurred from 1895 to 1902. By the early 1900's Australia's sheep population had been reduced by half and the Western District of New South Wales was nearly depopulated.

Sheepmen learned, the hard way, the real carrying power of native pasture and what areas were dependable grazing. Wheat growing and dairying increased production during the depression because of an influx of unemployed townsmen to farming. Farmers could now, under new laws which eliminated free selection of land and allowed sales only under close government supervision, acquire land of reasonable quality at reasonable price.

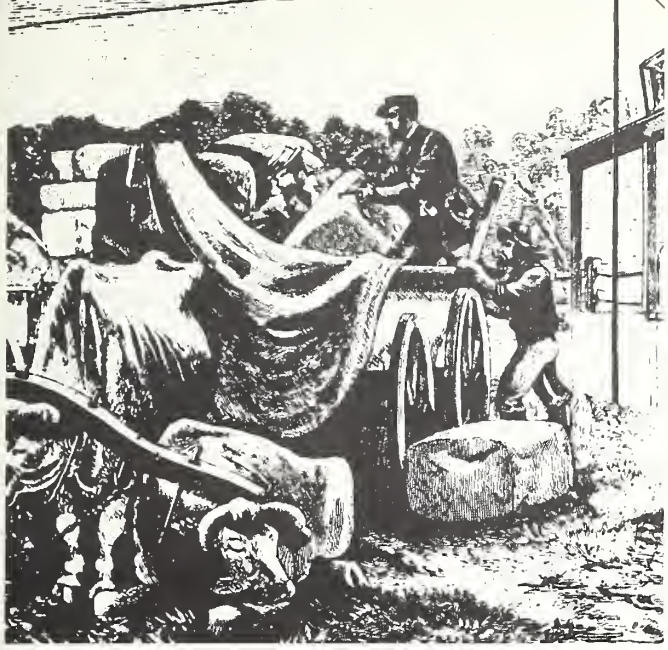
Building production

The steady economic recovery that occurred in Australia during the 1900's and up to the First World War was accompanied by expansion for many types of agrciulture.

Wheat farming finally became generally profitable. Railroads had reached inland to the areas where soils and climates were best suited to wheat and farmers now could profitably ship wheat to ports. Yields per acre increased and, most important of all, world wheat prices were good and overseas markets absorbed all that could be produced.

Wheat production quintupled in New South Wales between 1891 and 1911 and New South Wales became Australia's greatest wheat producer. For Australia as a whole, wheat production leapt from about 30 million bushels a year in the early 1890's to more than 100 million bushels in 1913.

Railroads, refrigeration, milking machines, increased acquisition of land by smallholders, larger areas under irrigation, and government encouragement triggered rapid growth in the dairy industry. Butter production climbed from 42 million pounds in 1891 to 212 million pounds in 1911. Butter exports, which had been negligible in the 1890's, were more than 100 million pounds per year by 1911.



Examining wool bales at a customs stop, Victoria, 1881.

Irrigation schemes, though mostly small and sometimes inadequately planned, were enthusiastically promoted, especially along the Murray River. By 1914 Victoria had 300,000 acres under irrigation, New South Wales 10,000, and South Australia about 7,000.

Gradually, as irrigation schemes ran into difficulties because of conflicts of interest, lack of planning or resources, and disputes of water rights between schemes and between irrigators and river navigators, central governments were forced to take on more responsibility for irrigation development. A crucial piece of legislation that set the stage for government control of irrigation projects was the Water Act of 1905, which declared that the beds and banks of all streams were and would remain Crown property and that no organization or individual had private rights to them.

The First World War disrupted agricultural development in Australia in several ways. Many young men joined the armed forces or worked in industry and were unavailable for farm labor. Supplies, such as fertilizers, were scarce, and lack of shipping prevented the export of large quantities of wheat, which accumulated in ports.

Optimism and overproduction

Wartime scarcities and the high prices of foodstuffs in Europe and Britain encouraged Australians to exuberant increases in production following the war.

For example, in 1920 Australia produced approximately 45 million pounds of dried vine fruit; in 1923 output was nearly 90 million pounds.

Returning servicemen were encouraged to swell farm output by various government schemes to acquire "farms" (usually a plot of completely undeveloped land). The often uneconomic operations of these farm settlement schemes placed burdens of debt on individual farmers, organizations, and, finally, governments.

The sugar industry increased its output swiftly. Stimulated by high wartime prices, sugar growers, who before the war had supplied about half of Australia's sugar requirements, jumped production so that Australia became a sugar exporter. Unfortunately, at about the same time the world sugar market collapsed. To support Australia's sugar industry, the Commonwealth Government put a heavy duty on sugar imports, arranged a price for sugar on the Australian market, and supported exports at low prices. Sugar was only one of the first commodities in Australia of the many that would soon receive some form of government regulation and aid.

Both butter and dried vine fruits were plagued by low prices on world markets in the late 1920's and farmers who depended on them for income found themselves in difficulties. In 1926 high home butter prices were instituted to offset low export prices, and stiff import duties were put into effect. By 1928 Commonwealth legislation controlled exports of dried vine fruits and provided high home prices and an export subsidy.

In spite of increasing problems of finding markets for extra farm production, the atmosphere continued optimistic. Prices for wheat were still well above prewar quotations, and wheat was a chief Australian export. Unfortunately, producer costs for Australian wheat growers were high and many were heavily in debt.

In the meantime a round of tariff raising by protectionist countries had hampered industrial exports from European manufacturing countries, which were in the 1920's the world's chief wheat markets. European wheat purchases decreased with the European fall in purchasing power.

Depression and aftermath

The combination of expanding production and contracting markets for Australian wheat resulted first in a price decline starting in 1928 and then in a price collapse in 1930. Australia's natural disadvantage as a wheat exporter (distance from traditional markets) made a bushel of Australian wheat in 1930 worth less than a bushel of English wheat at the time of Queen Elizabeth I. Australian farmers proceeded to grow unusually large wheat crops in 1930, 1931, and 1932 in an effort to maintain their incomes by offsetting low prices with huge quantities. They got little benefit from their crops.

By the late 1930's practically every form of agricultural output, except wool and meat, was receiving direct government help in Australia in some form.

The pattern of government aid to or regulation of agriculture in Australia set up during depression years persists to the present day, often in the form of stabilization plans that guarantee prices for production up to a certain level, fix Australian prices, and have some scheme of compensating farmers for low export prices if they occur. Some commodities, such as cotton, receive direct subsidies. Marketing boards responsible for the orderly selling of several major agricultural commodities were introduced in the late 1930's.

More hard times for farmers

Agriculture in Australia slowly recovered from the crash of the 1930's as world agricultural prices gradually climbed. Then, with the outbreak of World War II, shortages of farm necessities developed.

For example, phosphate fertilizers were scarce because the only nearby sources of phosphate rock were Pacific islands occupied for a time by the Japanese. New farm machinery and parts to repair existing machines were unobtainable. Young men were either in the armed forces or working in defense industries, and farm labor was extremely scarce. As

labor, fertilizers, and machinery dwindled, crop yields also began to fall. Finally, in 1944-45 Australia had one of the worst droughts in its history and stock numbers were reduced by nearly a quarter.

Despite these adversities, farmers carried on. The emphasis in agriculture was placed upon production of butter, cheese, dried milk, dried eggs, meats, and wool for shipment to the United Kingdom for use by civilians and Allied armed forces. A wide range of foodstuffs was also provided by Australia to Allied forces in the southern Pacific.

Once the war ended, farming had to compete with industry for returning labor, supplies, machines, and government attention.

Technology an agricultural catalyst

In the late 1940's science and technology began transforming Australian agriculture.

Soil science discovered that the reason so many areas of Australia would grow no agricultural plants or even worthwhile pasture was because they lacked certain trace elements in the soil—zinc, cobalt, molybdenum, or copper, for example. Minute additions of such elements to superphosphate applications converted many barren areas into productive pastures and fields.

Rabbits, the hated enemy of Australian agriculturalists and a real economic problem because of their appetites and fertility, were finally controlled by the virus disease myxomatosis. Another Australian agricultural plague brought under control was the prickly pear, which was decimated by the imported cactoblastis grub, a prickly pear parasite.

Pasture improvement has been a farflung postwar revolution, and one that is still taking place. The ideas of using fertilizers on pastures and of using specific types of cultivated grasses caught on quickly.

Several large-scale irrigation projects were initiated in postwar years, but the most ambitious of all has been the Snowy Mountains Scheme. This complex undertaking has involved building 9 major dams, about 100 miles of large-diameter tunnel, and a number of subsidiary structures. The purpose of the scheme is threefold—to dam water west and north of the Australian Alps for additional irrigation in the Murray-Darling system, to divert water now flowing eastward in the Snowy River to the coast across the Australian Alps to the Murray-Darling system for additional irrigation, and to generate electric power for cities and industries.

Clearing of new land and development of new irrigation schemes was undertaken by State or Commonwealth Governments, and new principles were applied that prevented such disasters as overtook many of the servicemen's settlement schemes begun after World War I. Soldier settlers after World War II received not only land but also financial assistance until farm units were fully developed.

Agricultural reaction

The 20 years between 1949 and 1969 saw remarkable expansion in Australia's rural industries. Production volume in 1968-69 was about double that of 1948-49 in spite of severe droughts in both 1965-66 and 1967-68.

The following tabulation of output of major farm products for two sets of years gives an idea of the extent of agricultural growth.

Item and unit	*1948-49*	*1968-69*
Sheep, in millions	109.0	176.0
Cattle, in millions	14.1	20.8
Wool, greasy, in million pounds	1,057.4	1,886.0
Meats, except canned, in 1,000 tons	992.0	1,705.0
Milk, in million gallons	1,209.0	1,520.0
Sugar, raw value, in 1,000 tons	943.0	2,725.0
Wheat, in million bushels	191.0	538.0
Barley, in million bushels	18.0	68.0
Tobacco, in million pounds	3.0	33.5
Cotton, fiber, in 1,000 bales [1]	1.0	155.0

[1] Bales are 480 lb. net.

Area sown to grasses and clovers for pasture increased from 14 million acres in 1948-49 to 54 million acres in 1967-68; the area of fertilized pasture rose from 11 million acres in 1948-49 to 41 million acres in 1967-68.

Production increases of such magnitude were not, of course, all absorbed within Australia. Over the same 20-year interval exports rose dramatically. Volume of exports of rural origin rose 57 percent between 1948-49 and 1968-69; but value of major rural exports more than doubled.

In 1968-69 total agricultural exports, worth US$2,096 million, were nearly half the value of gross rural production, estimated at US$4,390 million. Obviously, Australia's continued agricultural health depends on exports and those exports' competitiveness on world markets.

Some old problems still around

In the almost 180 years since Captain Phillip landed at Botany Bay with the first Australian colonists, some typically Australian agricultural problems have not been solved.

Agricultural production costs are high because of expensive Australian labor, the necessity of large capital investments for water supplies and land clearing, the expensiveness of machinery, the need of extensive use of fertilizers and trace elements, and the high costs of internal transportation.

Australia still has the geographic disadvantage of being far away from some of its principal markets so that agricultural exports must bear high ocean transportation costs.

But perhaps the problem that has the greatest hazard for Australian agriculture is the lack of dependable and expanding markets for some major exports.

Wool is experiencing a stagnant world market as more and more manmade fibers are being used in place of wool. The world price is now no higher than it was in 1948. Australia, the world's largest wool exporter, is getting less income from its added volume of wool sales than it has expected, and the immediate prospects for price improvement are not good.

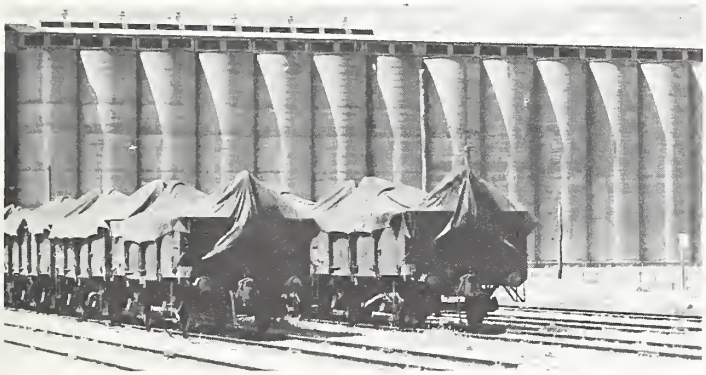
Next to wool, wheat is Australia's biggest rural export earner. But present world supplies of wheat are so large that the recent bumper crops in Australia will be hard to sell.

The brightest market horizon is for meat, and export earnings have been increasing rapidly in the past few years. But there is some danger of too rapid expansion in the industry. Australia has only a few profitable markets for its meat—the United States, Japan, and Canada.

Australia, in an effort to diversify its agricultural outlets, is increasingly cultivating Asian markets. Not only are they fairly near Australia, but they have growing populations and some have rapidly rising incomes that could create demand for Australia's wheat, meat, wool, dairy products, and fruit.

Stock roadtrain loads cattle at the Maryville depot on the Stuart Highway in the Northern Territory.

Impressions of Agriculture in Australia



Left, wheat terminal storage silos built by the State Grain Elevators Board at the port of Geelong, Victoria. Right, mechanical harvester picks cotton in a field in the Namoi Valley.

Right, rider musters sheep for shearing at Windy Station in New South Wales. Below, a crawler tractor works with superphosphate fertilizer in a bulk loading and storage shed of a plant operated by Australian Fertilizers Ltd. at Port Kembla.

AUSTRALIA AND NEW ZEALAND

SCALE IN MILES

0 50 100 200 300 400 500 1000

Topographic value in meters (1 meter = 3.28 feet)


SANTA CRUZ ISLANDS
TORRES ISLANDS
BANKS ISLANDS
FIJI ISLANDS
NEW HEBRIDES
CORAL SEA
New Caledonia
Noumea
LOYALTY ISLANDS
PACIFIC OCEAN
Brisbane
Sydney
NEW ZEALAND
TASMAN SEA
Auckland
NORTH ISLAND
Cook Strait
Wellington
SOUTH ISLAND
Mount Cook 3765
Foveaux Strait

INDONESIA

INDIAN OCEAN

Torres Strait

Port Moresby

Darwin

Arnhem Land

GREAT BARRIER REEF

CORAL SEA

SANTA CRUZ ISLANDS

TORRES ISLANDS

BANKS ISLANDS

FIJI ISLANDS

NEW HEBRIDES

New Caledonia

Noumea

LOYALTY ISLANDS

PACIFIC OCEAN

Mount Bruce 1227

Mount Ziel 1511

Alice Springs

AUSTRALIA

Mount Woodroffe 1515

Brisbane

Kalgoorlie

Perth

Sydney

Adelaide

Murray River

Melbourne

Strait

TASMANIA

Hobart

TASMAN SEA

NEW ZEALAND

Auckland

NORTH ISLAND

Cook Strait

Wellington

SOUTH ISLAND

Mount Cook 12,349 ft.

Foveaux Strait

AUSTRALIA AND NEW ZEALAND

SCALE IN MILES

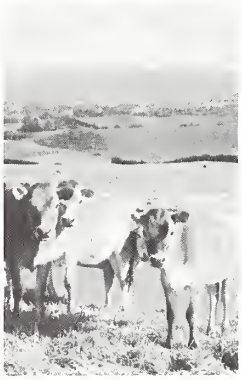
0 50 100 200 300 400 500 1000

Topographic value in meters (1 meter = 3.28 feet)

Milk tanktrucks make deliveries to the factory of the New Zealand Cooperative Dairy Company, Ltd.

Impressions of Agriculture in New Zealand

Near right, Jersey heifers with Mount Egmont, North Island, in the background. Far right, some members of a livestock-raising Maori farm family.



Left, Merino sheep at station near the Ben Ohau Range. Below, loading frozen lamb and mutton on ships, Glasgow Wharf, Wellington.

New Zealand's Agriculture—How It Grew

In less than a century and a half New Zealanders have parlayed 66 million acres of predominantly hilly to mountainous land into one of the world's leading sources of agricultural products. This faraway country, smaller than the State of Colorado and with only a little first-class land, has done it with grassland farming.

Agriculture—primarily livestock production—is New Zealand's major industry and the major source of export earnings. With its dairy herd of 3.8 million cattle, New Zealand is the world's foremost dairy exporter. Its perennial "big four" exports are meat, wool, butter, and cheese.

Geographic highlights and historic milestones pertinent to New Zealand's agricultural development are briefed below.

Lay of the land. New Zealand lies in the South Pacific some 1,200 nautical miles east of Australia. From Auckland —largest city and leading port—it's about 6,000 miles to San Francisco, 4,700 miles to Yokohama, and over 11,000 miles to London.

Numerous islands make up the country, but over 98 percent of the total 103,736 square miles are in North Island and South Island. Each is over 500 miles long and relatively narrow. North Island contains some 44,000 square miles; South Island is nearly one-third again as large. In general, most of North Island is hilly and South Island is mountainous. There are plains on both islands.

Of the nearly 43 million acres occupied for farming in New Zealand, about half is in sown pasture or under cultivation. Somewhat over one-third is in natural grass and tussock land. Only about 1¼ million acres are used to grow crops. About one-third of the total population of some 2.77 million is rural. Over 70 percent of the total population lives in North Island.

In 1968 there were 66,866 farm holdings of 10 acres or more. The average farm size was 638 acres.

New Zealand's climate gives it a great natural advantage in livestock production. Animals can be left out of doors all year, and pasture growth is dormant for only a short time. Rainfall is generally adequate and seasonally well distributed.

Discovery and settlement. Although New Zealand was discovered in 1642 by Abel Tasman of the Dutch East India Company there were no known further visits by Europeans until Captain James Cook "rediscovered" it in 1769.

On the islands when the Europeans came was a race of Polynesians called Maoris; most of them lived on the warmer North Island. At the beginning of the 19th century, New Zealand's population consisted of an estimated 100,000 to 200,000 Maoris and about 50 Europeans.

The first immigrants to settle with a definite plan of colonization were brought out from England in January 1840 by the New Zealand Company, a private concern. These settlers founded the town of Wellington, now the capital city.

Wellington colonists soon extended their settlement to other parts of the North Island and to Nelson on South Island. In 1848 and 1850, additional organized settlements were established on South Island. At first, the South Island settlements were the more successful, one reason being freedom from trouble between settlers and Maoris. Not until after 1900, when populations of the two islands were about equal, did population growth in the North Island begin to outgain that of South Island.

Among the reasons for growth of North Island population in the early 20th century was the increasing emphasis on dairy farming and meat production (which led to more intensive farming on smaller farms), the opening up of new lands suitable for intensive farming in the North Island, the completion of a main trunk railway between Wellington and Auckland, and greater industrial development in North Island cities. These cities were larger than those in South Island and had easier access to world shipping routes.

Farming changes. Until about 1850 the colonists were mainly producing food to sustain themselves. However, some farmers soon moved out of the established settlements and began to raise sheep on the abundant natural pasture. From 1850 to the early 1880's sheep were grown primarily for wool. Sheep numbers increased steadily and rapidly, and great numbers were imported from Australia. By 1853 wool made up 22 percent of the country's exports, second only to timber's 31 percent. Wool exports continued to increase and have been the most valuable single export item for most of the years since the 1870's.

Australian gold rushes in the 1850's encouraged New Zealand crop farming to supply grain and potatoes needed by the miners. A small dairying industry developed during this time, which produced enough for domestic consumption plus a small surplus of butter and cheese for shipment to Australia. This trade almost disappeared during the New Zealand gold rushes that began in 1861 because of local demand. Grain was again an important export in the 1880's until greater profit in frozen meat and dairy products diverted much of the wheat land.

In this history of New Zealand agriculture, one of the most significant dates is February 15, 1882, when the first shipment of frozen mutton and butter left Port Chalmers on the sailing ship *Dunedin* bound for London. With the age of refrigeration came: The opening up of distant markets for perishable foods that sparked a new era in the sheep industry (an emphasis on sheep meat as well as wool) and the beginning of expansion of the dairy industry; and the start of more intensive and more diversified farming.

Along with the introduction of refrigerated cargo vessels, the development of the centrifugal separator in dairy factories in 1885 and early organization of dairy cooperatives gave great impetus to New Zealand's increasing excellence in production of dairy products. Other contributors to the growth of dairying over the years were reliance on Jersey breeds, improved feeding methods, and disease control.

In becoming one of the world's leaders in the improvement of grasses and pastures, New Zealand pioneered the use of phosphatic fertilizers. Also, because of climatic and soil conditions, its plant scientists were able to produce clover strains that can fix atmospheric nitrogen and promote clover growth without application of nitrogenous fertilizers.

Since World War II, New Zealand has also pioneered in expanding hill country farming through widespread use of aerial top dressing and sowing. The dramatic growth of this phase of its agriculture is indicated by increase in area fertilized by airplanes from 48,000 acres in 1950 to 7.3 million acres in 1967.—E.V.H.

Several carts of wool bales, destined for Europe, are hauled toward a ship docked at a wharf in Wellington, New Zealand.

New Zealand Seeks Fresh Farm Markets

By W. GORDON LOVELESS
U.S. Agricultural Attaché, Wellington

For a century and a half New Zealand has had a relatively comfortable history of producing high-quality, low-cost food for the British people while at the same time building an economy that has given its citizens one of the highest standards of living in the world. Today, however, the country is gearing all of its economic planning to finding other markets than Great Britain for its agricultural products if Britain succeeds in joining the Common Market.

Antecedents

The British market has always in the past occupied a special place in New Zealand's economy. When New Zealand was a British colony in the 19th century, Britain absorbed about 80 percent of all the colony's exports. Some of the most valuable exports, then as now, were wool, lamb and mutton, dairy products, beef and veal, and deciduous fruits. New Zealand efficiently produced these products because of its climate, topography, and population.

The United Kingdom was New Zealand's chief agricultural market not only for social and political reasons. No country in the Pacific area had a population with either interest in or the income to buy New Zealand's products, except perhaps Australia, which grew many of the same products itself. In Europe, the United Kingdom was a natural market for farm products because of its large industrial and urban population, its high standard of living, its own small land area, and its great merchant fleet that could readily transport cargo from distant sources to points of distribution and consumption.

The producer-market relation between New Zealand and Great Britain changed little until after World War II, when New Zealand's dependence on Britain as a buyer lessened greatly. In a world of increasing affluence, New Zealand found some new and different markets. By the trading year ending June 30, 1968, Britain's share of total New Zealand agricultural exports was down to 44 percent.

Diversification of markets was not equal for all products, however. The United Kingdom still absorbed around 90 percent of all the lamb, cheese, and butter New Zealand sold abroad, and these were three of New Zealand's top money-earning exports. See the accompanying table for a more specific breakdown of New Zealand's market relation to Britain.

An uncertain future

Since the first negotiations between Britain and the EC in 1961, New Zealand has been taking every opportunity to widen its trade by seeking new markets and developing new products. Considerable success has been achieved from these efforts. But no responsible market official can foresee any mass alternative markets for the large volumes of butter, cheese, and lamb that now go to Britain.

New Zealand continues to push for new markets for lamb. In the 1969-70 season 15 percent of lamb shipments must go, by compulsory quota, to markets other than Britain. But the government and marketing agencies do not see the same dangers to the British market for lamb if the United Kingdom joins the EC as they do for butter and cheese. Present EC members are not large producers of lamb; they are surplus producers of butter and cheese.

The New Zealand Government flatly states that unless special safeguards are evolved to protect New Zealand's annual sales of 170,000 long tons of butter and 75,000 tons of cheese on the British market, the New Zealand dairy industry could face almost complete ruin with all of the social and economic disruption such a catastrophe would entail.

Meanwhile, New Zealand's dairy production continues to go up. The only current efforts by the government to shift agricultural emphasis are low-interest loans to dairy farmers and a bonus of NZ$10 per calf to grow calves for meat instead of butterfat production. Other programs to help move from dairy farming to alternative enterprises are only in the discussion stage.

On an international level, the New Zealand Government continues to press for agreements under GATT auspices to bolster trade in dairy commodities, to emphasize its need to the British Government for market assurances, and to send representatives to members of the Common Market to elucidate New Zealand's case for special arrangements in the event of British membership in the EC.

Trend toward industry

The National Development Conference, organized to plan the economic future of New Zealand, met in August 1968 and again in May 1969 and laid out a blueprint for the national economy over the following 10 years. From the Conference a National Development Council evolved with the duty to press for changes that are designed to retain and improve upon the high standard of living enjoyed by New Zealanders in the past. Under the Conference's plan, the nation would move toward greater industrialization.

Much attention is being given to manufacturing industries with products as varied as pottery, carpets, and wood pulp and newsprint. The target recommended to the Development Conference calls upon general manufacturing to produce NZ$50 million of exports by 1972-73 compared to a base export value of NZ$22 million in 1967-68. The goal is to reach a total manufactures export value of NZ$120 million by 1978-79—a 445 percent increase over the base year 1967-68.

Forestry products, recently one of the fastest growing export commodities, are expected to rise in export value from NZ$35 million in 1967-68 to NZ$60 million by 1972-73 and to NZ$85 million by 1978-79.

These industrial targets are believed to be far below New Zealand's real potential and will be bolstered by other industrial ventures. An example is the NZ$100-million aluminum smelter at Bluff—a joint enterprise by British, American, Australian, and Japanese interests that will convert some of New Zealand's resources of hydroelectric power into a source of foreign exchange by mid-1971.

Another industrial contribution is New Zealand steel. An integrated plant using North Island ironsands as raw material will be producing 150,000 tons of steel a year by 1971.

Agriculture, however, will remain the preeminent mainstay of the economy. In the year ending June 30, 1969, total exports exceeded NZ$987 million. Of this total, NZ$836 million came from agricultural products.

With its present dependence on agricultural products in foreign trade and on the British market, it is understandable why New Zealand is determined to fight hard for access for its farm products in the United Kingdom even if that country succeeds in joining the Common Market. At the same time, it is also understandable that New Zealand, despite any assurances of special safeguards, may not look upon Britain and Europe as the most promising areas for growth in overseas agricultural trade.

RELATIVE IMPORTANCE OF THE BRITISH MARKET FOR NEW ZEALAND'S AGRICULTURAL EXPORTS, JULY 1, 1967, THROUGH JUNE 30, 1968

Product	Value of exports		Britain's share of total market
	To Britain	To all markets	
	Million N.Z. dollars	*Million N.Z. dollars*	*Percent*
Lamb	111	122	91
Butter	100	112	89
Cheese	40	46	87
Sausage casings and tallow	5	16	31
Wool	35	155	23
Mutton	5	22	23
Milk products	6	32	19
Hides and skins	6	39	15
Beef and veal	11	82	13
Fruit	4	7	61
Casein	2	18	11
Other foods	2	24	8

Developing new markets

Amplification of New Zealand's share of the United States food market holds a high priority in the planning of both the New Zealand Government and trade organizations. The United States already ranks second to Britain as a market for New Zealand's agricultural goods. Most of New Zealand's sales are of meat, allied animal products, wool, and dairy products. Since 1958 the United States has been New Zealand's largest market for frozen beef and veal.

Trade between New Zealand and the United States is a two-way street, of course, but the balance is much in New Zealand's favor. For the 12 months ending June 30, 1969, New Zealand sold to the United States goods worth almost NZ$170 million; its purchases from the United States were a little more than NZ$99 million, of which only NZ$7 million were agricultural products.

No likely avenue of penetration of the U.S. market is apt to be overlooked by New Zealand trade and diplomatic personnel stationed in the United States. Diplomatic staffs are located, in addition to Washington, D.C., in New York, Los Angeles, and San Francisco. A trade correspondent is stationed in Honolulu, and producer marketing agencies, such as the Meat Producers Board, the New Zealand Meat Export Development Company, and the New Zealand Dairy Board, are active. It is of some interest to note that a greater number of New Zealand diplomatic and government trade representatives are assigned in the United States than are in Australia and that the number is almost equal to the number assigned in the United Kingdom.

One of New Zealand's first market-expanding efforts was the New Zealand-Australia Free Trade Agreement, under which about 60 percent of goods currently traded between the two countries will, within 8 years, be on a tariff-free basis. Volume of trade between the two countries has undoubtedly been encouraged by this agreement.

New Zealand's exports to Australia rose from just over NZ$52 million in 1967-68 to more than NZ$69 million in 1968-69. Most of the increase has come from sales of forestry products and manufactured goods, however, and the balance of trade remains heavily in Australia's favor as New Zealand's imports from Australia rose from NZ$130.5 million in 1967-68 to NZ$151 million in 1968-69.

The economies of the two countries are clearly not complementary in the way the New Zealand and British economies are.

Asian countries are receiving particular attention by New Zealand's market developers and trade promoters, and the future looks hopeful as these countries will have increasing demands for the types of agricultural products New Zealand sells. New Zealand's agricultural markets in Hong Kong and India have nearly doubled recently, and sales to Taiwan have trebled. Markets in Korea, Indonesia, and the Philippine Republic are showing definite growth.

But the Asian country receiving the lion's share of New Zealand's marketing efforts is Japan. Trade missions, visitations by high officials of each country's government, participation by New Zealand in Expo '70 at Osaka, Japan, and other efforts are all directed at swelling New Zealand's sales of meat, dairy products, and wool products to this increasingly affluent country of over 100 million customers. Japan is now New Zealand's largest outlet for mutton.

Strong competition for Japan's agricultural markets is expected. To ensure a place in this and like markets, New Zealand recognizes that concessions will have to be made. The most obvious would be lowering tariff rates toward, and if necessary below, those charged on British goods.

There are still other markets to be cultivated. Both Greece and Mexico, for example, have increased purchases recently of New Zealand's farm goods. Finally, the Soviet Union has made several advances to open up a larger volume of trade with New Zealand. Already a regular buyer of wool, the USSR would increase purchases if New Zealand, in return, would take more goods from the Soviet Union. Bilateral offers of trade, however, are difficult for New Zealand to accommodate under its present multilateral trade policy. But present conditions provide strong pressures to closely examine all possibilities for finding new markets.

A final note

New Zealand todays feels it is at an economic crossroads. Even if it is not immediately faced with the disappearance of its chief agricultural market, Britain, within the protectionist structure of the EC, its old trading ties with Commonwealth countries will have to fade before the necessity of discovering and cultivating new, rapidly growing markets for its farm products.

As old relationships are lost, new trade patterns will probably be developed with a large number of trading partners. The situation will provide continuing incentive to produce a wider range of agricultural products for a greater number of markets.

For the immediate future, loss of even a part of its market for agricultural products in the United Kingdom could result in a lowered standard of living for New Zealanders.

Trends in Australia's Agricultural Trade

By MARY ELLEN LONG
Foreign Regional Analysis Division
Economic Research Service

The importance of agriculture in Australia's economy is evidenced by the growth in farm exports during the past century.

In 1871 foreign trade (exports and imports) totaled US$189 million, and the population of this then-remote continent was 1.7 million. At that time 80 percent of all trade was with the United Kingdom and agricultural commodities accounted for more than 60 percent of the total value of exports.

As of 1968-69, population had increased to 12.5 million and merchandise trade totaled $6.7 billion, or about 35 times as much as it did in 1871. Farm products, as in 1871, still accounted for about two-thirds of total value of exports—down from 76 percent in the early 1960's. But instead of almost complete reliance upon the United Kingdom as a market, Australia today engages in commerce with more than 50 countries.

By the late 1970's when greater development of Australia's mineral resources is expected to be realized and increased emphasis will be placed on manufacturing, agricultural exports will probably account for a lower percentage of Australia's total foreign revenues.

Early trade patterns

Even in the early 1870's—the earliest period for which statistics are available—exports reflected efforts to diversify trade outlets. From 1871 to 1891 roughly 80 percent of the total trade, which averaged in value $270 million per year, was consigned to the United Kingdom. By 1901, while total trade has increased to $448 million, the United Kingdom's share of the market had declined to 47 percent. This diversion in trade from the United Kingdom resulted from the rapid growth of exports to British colonies such as India, Ceylon, and South Africa. Another significant trend in marketing that developed during this period was trade with France, Germany, and Belgium. Some of this early diversification of trade was stimulated by gold shipments, particularly to British colonial areas in southeast Asia, from Australia's gold fields.

Among Australia's farm commodity exports of this early period, wool, as today, was the largest foreign exchange earner. Wool exports to the United Kingdom during the 6 years 1901-06 averaged 107,000 tons annually. This trade represented about 53 percent of total Australian wool shipments. At the same time, the United States was the fifth largest market for Australian wool and took an average of 7,000 tons a year. Other important wool markets were France, Germany, and Belgium.

The second and third most important Australian agricultural exports were wheat and butter, respectively, in the early 1900's. Again, the largest outlet was the United Kingdom.

Other agricultural commodities important in the early trade of Australia (and they are still important) were meats, hides and skins, tallow, and fruits.

An interesting aspect of Australia's overall trade in the early years was that the total value of imports was only slightly less than the total value of exports. By 1906 the United Kingdom furnished about 59 percent by value of total Australian imports and took over 50 percent of Australia's farm exports. This Australian-U.K. trade relationship persisted even through part of the 1930's.

During World War II Australia's exportable surpluses of foodstuffs, particularly meats, dairy products, and grains, as well as large supplies of wool, were consigned to the United Kingdom and allied nations under contractual arrangements.

To supplement British domestic requirements in the postwar period, the United Kingdom provided long-term market assurances and guarantees for Australia's exports of meat, dairy products, and sugar.

Market developments in the 1960's

The total value of Australia's agricultural exports increased from $1.6 billion in 1959-60 to a high of $2.4 billion in 1963-64. Since that time exports of farm products have averaged $2.1 billion a year. The 1963-64 trade value reflected not only large meat shipments but big sales of wheat to both the USSR and Mainland China. Mainland China has been a major customer for Australian wheat since early 1961.

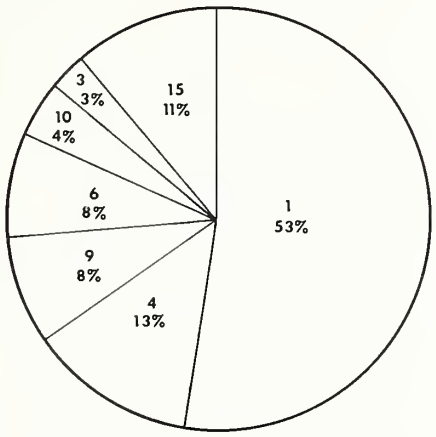
However, in 1968-69 shipments of wheat to Mainland

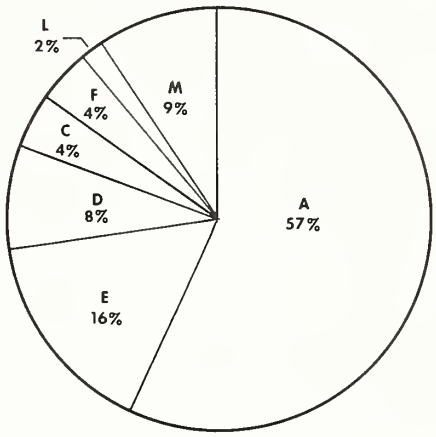
COUNTRY AND VALUE DISTRIBUTION OF AUSTRALIAN FARM EXPORTS

DESTINATION

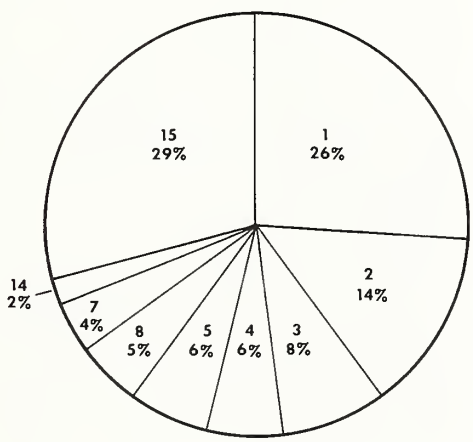
COMMODITY BREAKDOWN

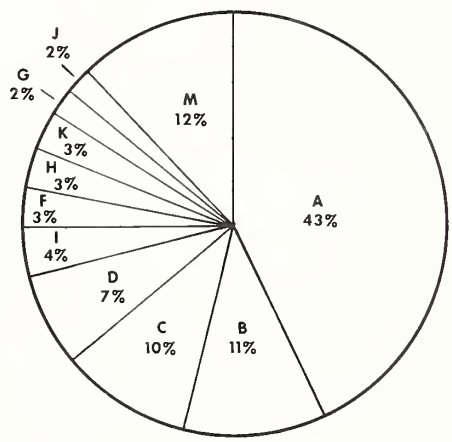
1906
TOTAL VALUE OF EXPORTS $193 MILLION



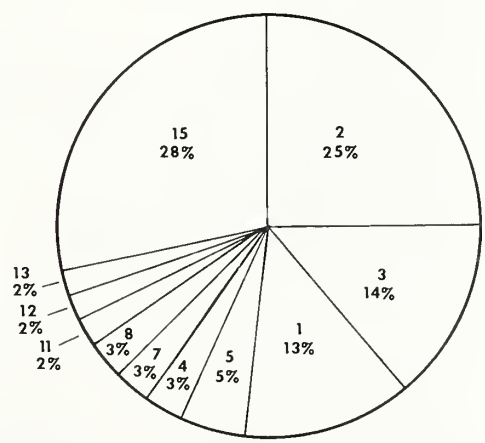


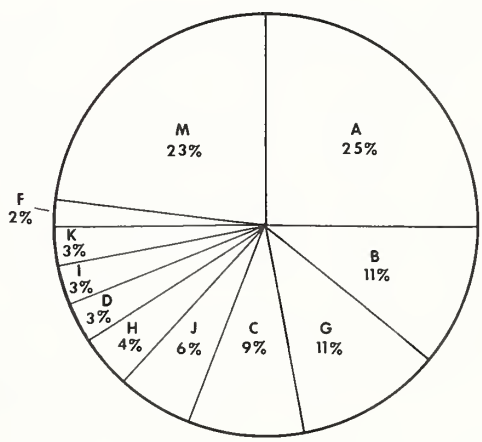
1959-60
TOTAL VALUE OF EXPORTS $2 BILLION





1968-69
TOTAL VALUE OF EXPORTS $3.7 BILLION





1 UNITED KINGDOM
2 JAPAN
3 UNITED STATES
4 FRANCE
5 NEW ZEALAND
6 GERMANY
7 WEST GERMANY
8 ITALY
9 BELGIUM
10 SOUTH AFRICA
11 NETHERLANDS
12 CANADA
13 MAINLAND CHINA
14 INDIA
15 OTHER

A WOOL
B GRAINS
C MEATS
D DAIRY PRODUCTS
E WHEAT AND FLOUR
F HIDES AND SKINS
G ORES
H SUGAR
I FRUITS AND VEGETABLES
J NONFERROUS METALS
K IRON AND STEEL
L TALLOW
M OTHER

Ginnery in new cotton-growing area in Western Australia.

China dropped sharply, and volume sales of wheat were the lowest since 1962-63. This trade curtailment combined with an Australian record wheat crop of 14.6 million metric tons resulted in large carryover stocks. A sale of 2.2 million metric tons of wheat to Mainland China in late 1969 with delivery to be completed in 1970 has eased the storage problem and provided some space for the new above-average 1969-70 crop just harvested.

Faced with increased competition from other suppliers in world markets, particularly for grain, dairy products, and meats, Australia benefited in the late 1950's and early 1960's from several new markets: Japan for wool, sugar, and wheat; the United States for beef, mutton, and sugar; Mainland China for wheat; and the Northern Hemisphere in late winter and spring for apples and pears.

The diversion of Australia's major export items away from the United Kingdom was aided by bilateral arrangements that Australia negotiated in the 1950's with Japan, Ceylon, Malaysia, West Germany, and Canada. In addition, unforeseen markets developed in the United States in recent years because of U.S. demand for certain types of beef and mutton and the stoppage of sugar supplies from Cuba.

In 1966-67 Japan became Australia's first-rank market for farm products (chiefly wool) with the United Kingdom in second place. In 1968-69 the value of agricultural exports to the United States for the first time surpassed the value of shipments of farm goods to the United Kingdom. Indications are that the United States will maintain the position of second largest market for Australia's agricultural commodities for some time to come because of Australia's large exports of meat, wool, and sugar to the United States.

Balancing this widening of markets available to Australia is the trend of the United Kingdom not to rely so exclusively on Australia for many of its food products as in earlier years —particularly dairy products, meats, and fruits.

Despite the shift in market destinations that has occurred in recent years—accentuating Japan and the United States—the United Kingdom, New Zealand, and West Germany continue as major outlets for Australia's farm produce much as in early trade periods.

Trade with the United States

From a general trade standpoint, Australia's position as an exporter of agricultural commodities has been chiefly as a competitor of the United States. Several examples of such competition can be given. Australian exports of wheat to Japan resulted from U.S. market promotion efforts to encourage the Japanese to eat more wheat. For many years Australia and the United States have been competing in the United Kingdom and West European countries for markets for fresh, dried, and canned fruits. Both countries have tried to enlarge their markets for wheat, nonfat dry milk, and tallow in Japan and India.

But Australia is also an important supplier of farm goods to the United States. U.S. imports from Australia—on a fiscal year basis (July-June)—have averaged more than $260 million per year since 1964. Most of this trade is imports of beef, mutton, wool, and cane sugar.

On the other side of the picture, U.S. exports of farm products to Australia for many years were relatively stable and averaged about $35 million annually. Sales were chiefly of cotton and leaf tobacco. In the past 2 years the situation has begun to change. Australia is now producing more of its own tobacco and nearly all of its own cotton.

From 1964-65 to 1967-68 Australia's total imports of cotton declined from 55.5 million pounds to 27.0 million pounds. In this same period imports of cotton from the United States fell from 36.9 million pounds to 10.1 million. Further sharp declines in imports of U.S. cotton have been reported for 1968-69.

Australia's tobacco imports from all sources have decreased at a slower rate. But domestic production is increasing and Australian tobacco is produced under the incentives of fixed quotas, mixing regulations, and stabilized prices. Imports are restricted each marketing year until domestic supplies are taken up by manufacturers. The United States has been fortunate to maintain its share of Australia's foreign tobacco leaf market—more than 60 percent—during the past 5 years.

Outlook for trade

Australia will probably become self-sufficient for practically all of its cotton raw material needs in the 1970's. Australian import figures for the 1968-69 year showed the United States as a minor supplier.

Tobacco imports in the 1970's will depend not only upon crop levels and marketing conditions in Australia but also upon actual consumption and demand for tobacco products.

Further Australian competition for U.S. agricultural exporters may be forthcoming in the 1970's from the development of increased Australian production of grain sorghums and corn by combined Australian and Japanese interests for export to Japan.

Australia's total merchandise exports increased in value from $3 billion in 1966-67 to $3.7 billion in 1968-69. It is interesting to note that during this time exports of ores and metals advanced to third place in value of total exports. Wool and grains are in first and second place, respectively. Since 1966-67 exports of minerals have increased by 100 percent in value. About 60 percent of mineral exports go to Japan, and by 1975 much greater increases in exports of metals and ores are expected.

CROPS AND MARKETS SHORTS

Weekly Rotterdam Grain Price Report

Current prices for imported grain at Rotterdam, the Netherlands, compared with a week earlier and a year ago, are as follows:

Item	February 12	Change from previous week	A year ago
	Dol. per bu.	*Cents per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 2 Manitoba	1.98	−3	2.05
USSR SKS-14	[1]	[1]	1.94
Australian Prime Hard	[1]	[1]	[1]
U.S. No. 2 Dark Northern Spring:			
14 percent	1.94	0	1.90
15 percent	2.01	0	1.95
U.S. No. 2 Hard Winter:			
13.5 percent	1.76	−1	1.85
Argentine	1.74	−3	1.84
U.S. No. 2 Soft Red Winter	1.63	−3	1.74
Feedgrains:			
U.S. No. 3 Yellow corn	1.56	−2	1.38
Argentine Plate corn	1.55	−1	1.42
U.S. No. 2 sorghum	1.56	0	1.38
Argentine-Granifero	1.37	+1	1.25
Soybeans:			
U.S. No. 2 Yellow	2.98	0	2.91

[1] Not quoted.

Note: All quoted c.i.f. Rotterdam for 30- to 60-day delivery.

Argentina's Feedgrain Exports

A recent survey of Argentine feedgrain prospects indicates that the upcoming crops will be at least 8.5 million metric tons of corn and 3.0 million tons of sorghum, compared with 6.9 million and 2.5 million tons, respectively, last year. At these levels of production, total corn and sorghum exports could reach 7 million tons, a gain of more than 1.5 million tons over the level expected to be exported in the season ending March 31, 1970.

Since world imports of feedgrains are not expected to gain much this year, larger sales of Argentine corn and sorghum would cut into U.S. sales of both, especially during the April through September period. The survey indicated that during this period Argentine shipments of corn and sorghum could be more than 1 million tons higher than during the same period last year.

U.S. Tobacco Imports Decline

General imports (arrivals) of unmanufactured tobacco during calendar 1969 were down 12 percent from last year. A total of 231 million pounds valued at $117 million was imported, compared with 263 million pounds worth $148 million during 1968. Arrivals of cigarette leaf other than flue and burley were down 26 percent for the year. However, the significant increases in flue and burley cigarette leaf and unstemmed cigar filler partly offset this decline.

The volume of arrivals for the month of December was down 58 percent from the same month in 1968.

Imports of unmanufactured tobacco leaf for consumption (duty-paid withdrawals from customs bond for manufacture) were down to 213 million pounds in 1969, a decline of 4 per-

U.S. IMPORTS OF UNMANUFACTURED TOBACCO
[For consumption] [1]

Period and kind	1968 Quantity	1968 Value	1969 Quantity	1969 Value
	1,000 pounds	*1,000 dollars*	*1,000 pounds*	*1,000 dollars*
January-December:				
Cigarette leaf (flue & burley)	2,037	594	4,485	1,488
Cigarette leaf, other	162,644	113,670	143,327	96,862
Cigar wrapper	539	2,209	462	1,643
Mixed filler & wrapper	269	1,225	327	1,425
Cigar filler, unstemmed	3,014	2,099	2,325	2,115
Cigar filler, stemmed	2,542	3,401	2,457	3,176
Scrap	48,833	18,409	58,940	20,629
Stems	1,593	158	1,092	199
Total	221,471	141,765	213,415	127,537
December:				
Cigarette leaf (flue & burley)	—	—	162	52
Cigarette leaf, other	10,330	6,939	9,787	6,651
Cigar wrapper	23	83	19	72
Mixed filler & wrapper	44	216	10	47
Cigar filler, unstemmed	325	191	135	135
Cigar filler, stemmed	118	133	166	204
Scrap	4,320	1,561	4,136	1,442
Stems	351	6	—	—
Total	15,511	9,129	14,415	8,603

[1] Duty-paid withdrawals from customs bond for manufacture. Bureau of the Census.

U.S. GENERAL IMPORTS OF UNMANUFACTURED TOBACCO

Period and kind	1968 Quantity	1968 Value	1969 Quantity	1969 Value
	1,000 pounds	*1,000 dollars*	*1,000 pounds*	*1,000 dollars*
January-December:				
Cigarette leaf (flue & burley)	7,879	2,320	14,457	5,046
Cigarette leaf, other	178,909	119,558	131,728	83,282
Cigar wrapper	534	2,191	599	1,906
Mixed filler & wrapper	474	2,055	601	2,281
Cigar filler, unstemmed	30,496	9,744	38,666	11,844
Cigar filler, stemmed	2,683	3,349	2,413	2,622
Scrap	40,752	9,191	41,050	9,664
Stems	899	42	1,052	24
Total	262,626	148,450	230,566	116,669
December:				
Cigarette leaf (flue & burley)	21	7	684	302
Cigarette leaf, other	28,954	19,122	6,132	4,273
Cigar wrapper	33	206	30	145
Mixed filler & wrapper	68	257	1	5
Cigar filler, unstemmed	1,448	711	3,200	981
Cigar filler, stemmed	109	137	166	182
Scrap	5,627	1,483	5,234	824
Stems	351	6	—	—
Total	36,611	21,929	15,447	6,712

Bureau of the Census.

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cent from 1968. The average import value per pound at 59.8 cents per pound was down from 64.0 cents in 1968.

Most of the decline was in cigarette leaf other than flue-cured and burley, with smaller decreases in cigar filler, cigar wrapper, and stems. Withdrawals of scrap tobacco and of flue-cured burley cigarette leaf were substantially larger than in 1968.

December imports for consumption were down, but the decrease was not as pronounced as in the general imports.

Sugar Supplies Are Larger in India

Sugarcane acreage in India during the 1969-70 season is estimated to be 14 percent above the previous year. A record harvest of 125 million metric tons of cane from approximately 7 million acres is expected in 1969-70. Mill sugar production may reach 4 million to 4.2 million tons. With a carryover of 1.25 million tons from 1968-69, total availability of mill sugar will be around 5.4 million tons. Domestic consumption is not likely to exceed 3 million tons.

Mounting sugar stocks and declining open-market prices call for efforts to stimulate exports during 1970. The government will make available for export 325,000 tons of sugar during calendar 1970, the highest amount in several years. The proposed exports in 1970 will entail an estimated export subsidy of Rs200 million ($26.7 million). The government plans to continue existing distribution and price controls; however, to relieve the industry of burdensome stocks, it is working out a program for building a buffer stock of 400,000 tons.

El Salvador Sugar Production Up

In 1969 El Salvador planted some 10,000 additional acres in sugarcane, and 3,000 to 5,000 acres were replanted. The cane, which will begin to yield during 1970-71, could increase raw sugar output by 25 percent. Sugar production, estimated at 120,000 metric tons in 1969-70, could reach 150,000 tons in 1970-71.

Russian Sunflowerseed Crop Down

The Soviet Union has just announced that its 1969 sunflowerseed crop estimate is 6.3 million metric tons, down 6 percent from the 1968 crop of 6.7 million tons. This implies a reduction of 150,000 metric tons of sunflowerseed oil, or the oil content of 30 million bushels of soybeans. Sunflowerseed oil has a keen competitor in soybean oil derived from U.S. beans crushed abroad.

The extent to which the Soviet Union will reduce its exports is not known, since it has the alternatives of dipping into stocks and/or restricting domestic consumption. However, it appears that the Soviet Union—based on its export pattern in 1969—will reduce its exports to bilateral trading partners more sharply than its exports to hard-currency countries.

Smaller Iranian Almond Crop

The 1969 Iranian almond crop is now placed at 6,000 short tons (shelled basis), 25 percent below the 1968 bumper harvest. Heavy rains and cold weather are responsible for the reduction.

Exports of 1968-crop almonds are placed at 5,500 tons, almost double the 1967-68 volume. In 1968-69, export prices ranged from 55.5 to 66 cents per pound, averaging about 60 cents per pound. Because of the short crop, 1969-70 exports are expected to total only 2,900 tons. 1969-70 export prices have risen from 69 cents per pound in September to 81 cents in November. Despite the increased prices, the USSR is expected to continue as Iran's largest almond customer.

IRAN'S ALMOND SUPPLY AND DISTRIBUTION

Item	Average 1962-66	1966-67	1967-68	1968-69 [1]	1969-70 [2]
	1,000 short tons	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*
Beginning stocks (Sept. 23)	1.1	2.0	0.5	0.5	0.1
Production	5.6	1.5	5.5	8.0	6.0
Total supply	6.7	3.5	6.0	8.5	6.1
Exports	2.8	.6	2.8	5.5	2.9
Domestic disappearance	2.9	2.4	2.7	2.9	2.9
Ending stocks (Sept. 22)	1.0	.5	.5	.1	.3
Total distribution	6.7	3.5	6.0	8.5	6.1

[1] Revised. [2] Preliminary.

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